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| 10/075,045   | 02/12/2002  | Joseph F. Cramer III | CS20418RLD01        | 7497             |
| 20280  | 7590        | 06/08/2004           | EXAMINER            |                  |
| MOTOROLA INC<br>600 NORTH US HIGHWAY 45<br>ROOM AS437<br>LIBERTYVILLE, IL 60048-5343 |             |                      | DOAN, PHUOC HUU     |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2684                | 3                |

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/075,045

Applicant(s)

CRAMER, JOSEPH F.

Examiner

Phuoc H Doan

Art Unit

2864

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: TPC should be TPC (transmit power control). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 3, 4-8, 9-13, 15, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichihara (US 6,553,018) in view of Hayashi et al (Pub. No.: US 2002/0094835).

As to claim 1, Ichihara teaches a method for power control in spread spectrum communication systems, the method comprising the steps of: providing two or more multiplexed registers 16A, 16B (Fig. 1) coupled to a control circuit, the multiplexed registers controlled by a control signal, the registers containing power control values; measuring a transmit power; receiving the TPC information 12, 23 (Fig. 1), wherein if the TPC information is the same as the last TPC information, calculating a new power control value using the TPC information and measured transmit power, and writing the new power control value to the next selected register; and applying the control signal

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corresponding to the next selected register to the multiplexer to couple the value of next selected register to the control circuit. See Fig. 2, (col. 10, lines 40-67), and (col. 11, lines 1-67). However, Ichihara does not teach that determining whether the TPC information calls for an increase of decrease in power; comparing the new TPC information to the last TPC information.

Hayashi teaches that determining whether the TPC information calls for an increase of decrease in power; comparing 19 (Fig. 2) the new TPC information to the last TPC information. See (page 1, [0006-0015]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide of comparing the new TPC information to the last TPC information of Hayashi to the method for power control in communication systems of Ichihara, as suggested by Hayashi (page 1, [0008]).

As to claim 3, the method of claim 1, Ichihara further teaches that wherein the determining step includes deciding on a control signal where multiple TPC signals are present, such as during soft handoff (Fig. 9, col. 9, lines 25-39).

As to claim 4, the method of claim 1, Ichihara further teaches that wherein the steps are repeated during each timing slot of the particular communication system (col. 10, lines 6-64).

As to claim 5, the method of claim 1, Ichihara further teaches that wherein the registers are alternately selected by the control line at every slot (col. 10, lines 1-64).

As to claim 6, the method of claim 1, Ichihara further teaches that wherein the same steps are performed for other incremental control circuit processes (col. 12, lines 37-65).

As to claim 7, the method of claim 1, Ichihara further teaches that wherein the control line remains constant from slot to slot where the output power remains constant (col. 11, lines 28-37).

As to claim 8, Ichihara teaches that a method for power control in spread spectrum communication systems, the method comprising the steps of: providing multiplexed dual registers coupled to a control circuit, the multiplexed dual register 16A, 16B, 16M, 22 (Fig. 4) controlled by a control signal 23A (Fig. 4), the registers containing power control values; measuring a transmit power; receiving the TPC information 12, 23A (Fig. 4); wherein if the TPC information is the same as the last TPC information, calculating a new power control value using the TPC information and measured transmit power, and writing the new power control value to the next selected register; and applying the control signal corresponding to the next selected register to the multiplexer to couple the value of next selected register to the control circuit, wherein the registers are coupled alternately to the control circuit at every slot; and repeating the steps of measuring through applying for each timing slot of the communication system. See (col. 12, lines 37-67, col. 13, lines 1-67, and col. 14, lines 1-28). However, Ichihara does not teach that determining whether the TPC information calls for an increase or decrease in power; comparing the new TPC information to the last TPC information.

Hayashi teaches that determining whether the TPC information calls for an increase or decrease in power; comparing 19 (Fig. 2) the new TPC information to the last TPC information (page 1, [006-0015]). Therefore, it would have been obvious to one skill in the art at the time the invention was made to provide of comparing the new TPC information to the last TPC information of Ichihara to the method for power control in communication systems of Ichihara, as suggested by Hayashi (page 1, [0008-0011]).

As to claim 10, the method of claim 8, Ichihara further teaches that wherein the determining step includes deciding on a control signal where multiple TPC signals are present, such as during soft handoff. See (Fig. 9, col.9, lines 25-39).

As to claim 11, the method of claim 8, Ichihara further teaches that wherein the same steps are performed for other incremental control circuit processes. See (Fig.4, col. 12, lines 37-65).

As to claim 12, Ichihara teaches that a plurality of hardware registers (Fig. 4), the registers for containing calculated power control values (Fig. 6); a multiplexer coupled to the hardware registers, the multiplexer controlled by a control line to switchably select one of the registers; a control circuit coupled to the multiplexer (Fig. 6, col 13, lines 65-67), a processor for providing a control signal to the control line, the processor measures a transmit power, receives the TPC information, wherein if the TPC information is the same as the last TPC information, the processor calculates an new power control value using the measured transmit power and TPC information and writes the new power control value to the next selected register, and applies the control signal corresponding to the next selected register to the multiplexer to couple the value of the

next selected register to the DAC. See (col. 8, lines 5-67, col. 10, lines 6-25, col. 11, lines 1-67, and col. 12, lines 1-24). However, Ichihara does not teach that determining whether the TPC information calls for an increase or decrease in power, compares the TPC information to the last TPC information.

Hayashi teaches that determining whether the TPC information calls for an increase or decrease in power, compares the TPC information to the last TPC information. See (Fig. 2, page 1, [0005-0015]). Therefore, it would have been obvious to one skill in the art at the time the invention was made to provide of comparing the new TPC information to the last TPC information of Ichihara to the method for power control in communication systems of Ichihara, as suggested by Hayashi (page 1, [0008-0011]).

As to claim 13, the apparatus of claim 12, Ichihara further teaches that further comprising a power amplifier to drive transmit power coupled to the DAC (col. 9, lines 27-29).

As to claim 15, the apparatus of claim 12, Ichihara further teaches that wherein if multiple TPC signals are present, such as during soft handoff, the processor decides on a control signal (col. 8, lines 56-57).

As to claim 16, the apparatus of claim 12, Ichihara further teaches that wherein the registers are alternately selected by the control line at every slot (col. 10, lines 1-64).

As to claim 17, the apparatus of claim 12, Ichihara further teaches that further comprising other sets of multiplexed registers operated on by the processor in the same manner to control other incremental control circuit processes (col. 12, lines 37-65).

As to claim 18, the apparatus of claim 12, Ichihara further teaches that wherein the control line remains constant from slot to slot where the output power remains constant (col.11, line 28-37).

Claim 2, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichihara (US 6,553,018) in view of Hayashi (Pub. No.: 2002/0094835) and further in view of Hosur (US 6,166,622).

As to claim 2, in the modify Ichihara system, Ichihara further teaches the method of claim 1. However, Ichihara does not teach wherein the measuring step occurs at every slot a fixed delay time after an uplink transmit slot to account for the time constant for transmit power detector filtering.

Hosur teaches that wherein the measuring step occurs at every slot a fixed delay time after an uplink transmit slot to account for the time constant for transmit power detector filtering (Fig. 4, col. 2, lines 29-67, col. 3, lines 1-67, col. 4, lines 1-35). Therefore, It would have been obvious to one skilled in the art at the time the invention was made to modify Ichihara system with the teaching of Hosur in order to limit the delay time by spreading the transmitted energy over a wide bandwidth (col. 1, lines 10-22).

As to claim 9, in the modify Ichihara system, Ichihara further teaches the method of claim 8, however, Ichihara does not teach wherein the measuring step occurs at every slot a fixed delay time after an uplink transmit slot to account for the time constant for transmit power detector filtering.



Hosur teach that the wherein the measuring step occurs at every slot a fixed delay time after an uplink transmit slot to account for the time constant for transmit power detector filtering. See (Fig. 4, col. 2, lines 29-67, col. 3, lines 1-67, and col. 4, lines 1-35). Therefore, It would have been obvious to one skilled in the art at the time the invention was made to modify Ichihara system with the teaching of Hosur in order to limit the delay time by spreading the transmitted energy over a wide bandwidth (col. 1, lines 10-22).

***Allowable Subject Matter***

Claim 14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 14, the prior art of record fail to teach that the apparatus of claim 12, wherein the processor measures transmit power for every slot at fixed delay time after an uplink transmit slot to account for the time constant for transmit power detector filtering.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuoc H Doan whose telephone number is 703-305-6311. The examiner can normally be reached on 9:30-6:30.

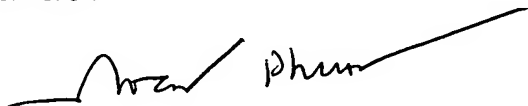
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung A Nay can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuoc Doan

  
**NICK CORSARO**  
**PATENT EXAMINER**

05/28/04

 Maung A Nay